

DESCRIPTION

The Interface range of load shackles is designed for lifting and weighing in rugged or harsh environments. The shackle pins are forged from high tensile alloy steel and are machined to an exacting specification. The basic shackle uses the Crosby G2150 series.

This range of load cells are proof loaded to 150% of the normal rated load, and are available in a range from 1 MT to 35 MT (2.2K to 77.2K lbf). The ISHK-D is internally gaged and the whole instrumented area is sealed to IP67 to protect it in service.

They are simple to install and are available in standard shackle sizes. As an option, a rotating bobbin can be supplied to centralize the load and to minimize any point-load effects when the shackle is placed under load. We are also always happy to discuss any special requirements that can be accommodated.

The ISHK-D series can be supplied on its own or combined with our extensive range of instrumentation to provide a complete load monitoring package.

FEATURES & BENEFITS

- Ranges from 1 to 35 MT (2.2K to 77.2K lbf)
- Environmentally sealed to IP67
- Simple installation and operation
- Shackle and load pin fully certified



ISHK-D (Shown)

TYPICAL APPLICATIONS

- Under-hook hoist/crane weighing
- Cable tension monitoring
- Towing/mooring tension
- Crane safe load monitoring

OPTIONS

- Special ranges and capacities up to 2K MT (4409K lbf)
- Special electrical connections
- Integral signal conditioning
- Centralizing load bobbin
- Subsea and offshore versions
- TEDS option
- ATEX version available

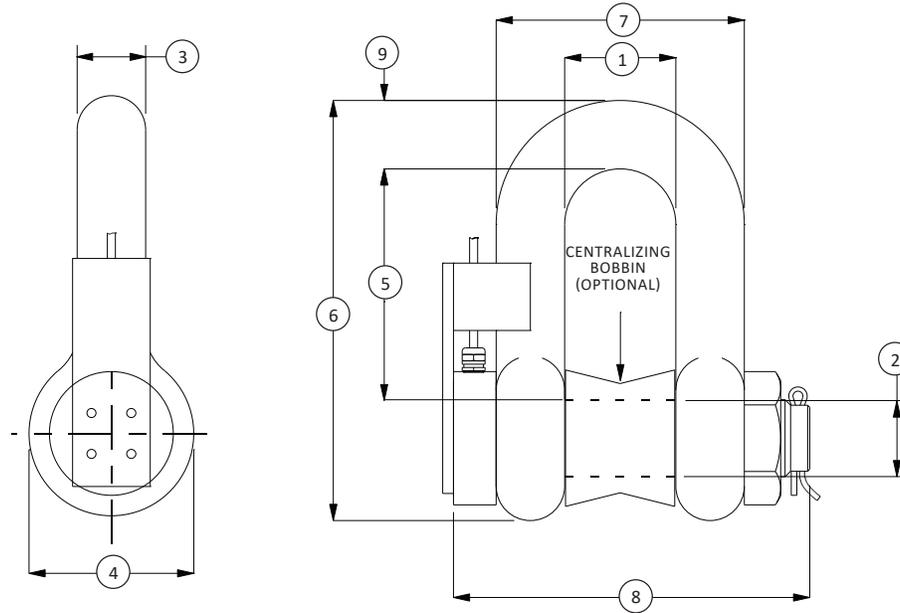
U.S. dimensions and capacities are provided for conversion only. Standard products have International System of Units (SI) capacities and dimensions.

SPECIFICATIONS

Rated Load (MT)	Metric (MT)	1	2	3.25	4.75	6.5	9.5	12	17	25	35
	U.S. (lbf)	2.2K	4.41K	7.17K	10.5K	14.3K	20.9K	26.5K	37.5K	55.1K	55.1K
Proof Load – %	150 of rated load										
Ultimate Breaking Load – %	300 of rated load										
Output – mV	Between 1.8 and 2.4										
Nonlinearity – %	< ±1 of rated load (typically)										
Nonrepeatability – %	< ±0.1 of rated load										
Excitation Voltage – VDC	10 recommended, 15 maximum										
Bridge Resistance – Ω	350										
Insulation Resistance – MQ @ VDC	>500 @ 500										
Operating Temperature Range	°C	-20 to +70									
	°F	-4 to +158									
Compensated Temperature Range	°C	-10 to +50									
	°F	+14 to +122									
Zero temperature Coefficient – % / °C	< ±0.01 of rated load										
Span temperature Coefficient – % / °C	< ±0.01 of rated load										
Environmental Protection level	IP67										
Connection Type	m	10, 4-conductor shielded cable									
	ft	32.8, 4-conductor shielded cable									
Wiring Connections	+ve supply: Red, -ve supply: Blue, +ve signal: Green, -ve signal: Yellow										
Weight	kgs	2	2.2	2.4	2.8	3.5	6	8	10	15	22
	lbs	4.4	4.85	5.29	6.17	7.72	13.2	17.6	22.0	33.1	48.5
Resolution	MT	0.001	0.002	0.005	0.005	0.005	0.01	0.01	0.02	0.02	0.05
	lbf	2.205	4.409	11.023	11.023	11.023	2.20	2.20	4.41	4.41	11.02
Material	Alloy steel										

SPECIAL OPTIONS

Special Ranges	The ISHK-D can be supplied in any range, between 1 and 35 MT (2.20K to 77.2K lbf) and calibrated as required. Usually we will choose the nearest standard shackle size. We can also offer special design shackles up to 2K MT (4409K lbf). Please contact our design team for more details		
Special Electrical	The standard ISHK-D cable exits the shackle pin via a gland and is restrained using the anti-rotation bracket. We can offer variations to the electrical connection method. For example, integral connectors, special cable length etc.		
Integral Signal Conditioning	Analog Signals	mA (VDC)	4-20 2-wire current output (7.5 to 30 supply)
		VDC (VDC)	4-20 3-wire current output (10 to 30 supply)
	Digital Signals	(VDC)	0-5 3-wire voltage output (8.5 to 28 supply)
		(VDC)	0-10 3-wire voltage output (13 to 30 supply)
Centralizing Bobbin	We can offer an optional centralizing bobbin. This helps improve the overall accuracy in certain cable tension applications. The bobbin is shown pictorially in the dimensions drawing.		
Radio Telemetry	We have a version available that requires no cable connection, using radio telemetry to transmit data. There is a separate data sheet available for this product (WTSSHK-D).		
Subsea or Offshore	We are able to offer fully submersible versions, which are normally supplied with underwater mateable connectors, making them suitable for use in environmental pressures up to 10,000psi.		



DIMENSIONS

See Drawing	CAPACITY									
	Metric (MT)	U.S. (lbf)								
	1	2.2K	2	4.41K	3.25	7.17K	4.75	10.5K	6.5	14.3K
	mm	in								
(1)	16.8	0.66	20.6	0.81	26.9	1.06	31.8	1.25	36.6	1.44
(2)	Ø11.2	Ø0.44	Ø16	Ø0.6	Ø19.1	Ø0.75	Ø22.4	Ø0.88	Ø25.4	Ø1.00
(3)	Ø9.65	Ø0.380	Ø12.7	Ø0.50	Ø16	Ø0.6	Ø19.1	Ø0.75	Ø22.4	Ø0.88
(4)	Ø23.1	Ø0.91	Ø30.2	Ø1.19	Ø38.1	Ø1.50	Ø46	Ø1.8	Ø53	Ø2.1
(5)	31	1.2	41.4	1.63	51	2.0	60.5	2.38	71.5	2.81
(6)	58.5	2.30	77	3.0	95.5	3.76	115	4.5	135	5.3
(7)	35.8	1.41	46	1.8	58.5	2.30	70	2.8	81	3.2
(8)	55	2.2	84	3.3	89.5	3.52	103	4.1	120	4.7
(9)	9.65	0.380	12.7	0.50	16	0.6	20.6	0.81	24.6	0.97

See Drawing	CAPACITY									
	Metric (MT)	U.S. (lbf)								
	9.5	20.9K	12	26.5K	17	37.5K	25	55.1K	35	77.2K
	mm	in								
(1)	46.0	1.81	51.5	2.03	60.5	2.38	73.0	2.87	82.5	3.25
(2)	Ø31.8	Ø1.25	Ø35.1	Ø1.38	Ø41.4	Ø1.63	Ø51	Ø2.0	Ø57	Ø2.2
(3)	Ø28.7	Ø1.13	Ø31.8	Ø1.25	Ø38.1	Ø1.50	Ø44.5	Ø1.75	Ø51	Ø2.0
(4)	Ø68.5	Ø2.70	Ø76	Ø3.0	Ø92	Ø3.6	Ø106	Ø4.2	Ø122	Ø4.8
(5)	91	3.6	100	3.9	122	4.8	146	5.7	172	6.8
(6)	172	6.8	191	7.5	230	9.1	279	11.0	312	12.3
(7)	103	4.1	115	4.5	137	5.4	162	6.4	184	7.2
(8)	150	5.9	165	6.5	196	7.7	230	9.1	264	10.4
(9)	31.8	1.25	35.1	1.38	41.1	1.62	54	2.1	60	2.4